

# **LEARNERS' COMPETENCIES** **IN NEW FORMS OF** **ASSESSMENT: A CASE STUDY**

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A research report submitted to the Faculty of Science, University of the Witwatersrand, Johannesburg, in partial fulfilment of the requirements for the degree of Master of Science.

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**DECLARATION**

I declare that this research report is my own, unaided work. It is being submitted for the Degree of Master of Science in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in any other University.

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(Mrs. L. Rodwell)

28<sup>th</sup> day of February 2006

**Abstract**

This small-scale case study researches the importance of analysing the mathematics competencies assessed by a selection of tasks developed for a portfolio in Grade 9 during 2003. The tasks are analysed according to the cognitive demand placed on the learners, plus their open-ended versus closed nature. This research reveals that the weaker ability learners experience a greater apparent benefit, compared to the stronger ability mathematics learners. Although there are other mathematical competencies assessed in this research report, those of 'thinking and reasoning mathematically' and 'representing and explaining mathematical entities' are most problematic, compared to the more traditional competencies of 'memorisation' and 'manipulation of mathematical symbols and formalisms'. Assessing the tasks from the perspective of mathematical competencies, may serve to provide an alternative framework for analysing the appropriateness or not of tasks used in the development of portfolios and thus improve the practises of mathematics teachers in general.

## **DEDICATION**

To  
Matthew, Calvin and Courtney,  
for all the times I wasn't able to spend with you as a family.

## **ACKNOWLEDGEMENTS**

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**LIST OF FIGURES**

Figure 4.1	Assessment forms summarised.....	33
Figure 4.2	Goals of teaching and learning.....	39
Figure 5.1	Cognitive levels of competencies.....	69
Figure 5.2	Relationship between theory, competencies and task development.....	72
Figure 7.1	Number of occurrences of each competency.....	95
Figure 7.2	A comparison of learners' selected portfolio mark, final portfolio mark and final promotion mark.....	111

## LIST OF TABLES

Table 3.1	Table comparing performance models to competency-based models of education.....	26
Table 4.1	Table demonstrating assessment forms and possible functions.....	34
Table 5.1	Mathematical competencies.....	61
Table 5.2	Relationship between the mathematical competencies, the Critical Outcomes and the Specific Outcomes as used in 2003.....	65
Table 6.2.1	Example of Competency 2b clearly demonstrated.....	83
Table 7.1	Explanation of competencies within each task.....	97 - 98
Table 7.2	Number of occurrences of competencies in original tasks.....	99
Table 7.3	Percentages per Task.....	107
Table 7.4	Final percentages.....	108
Table 7.5	Table showing the number of learners' for each task.....	117
Table 7.6	Whole sample learner performance within each sub-category of competency.....	118
Table 7.7	Level 2 learner performance within each sub-category of competency.....	127
Table 7.8	Level 3 learner performance within each sub-category of competency.....	130
Table 7.9	Level 4 learner performance within each sub-category of competency.....	136
Table 7.10	Table depicting the tasks that displayed some of the lowest percentages for each level as a group. ....	137

## CONTENTS

DECLARATION.....	ii
ABSTRACT.....	iii
DEDICATION.....	iv
ACKNOWLEDGEMENTS.....	v
LIST OF FIGURES.....	vi
LIST OF TABLES.....	vii
 <b>CHAPTER ONE – INTRODUCTION AND RATIONALE.....</b>	 <b>1</b>
 <b>CHAPTER TWO – EDUCATION IN SOUTH AFRICA: CHANGING MODELS OF ASSESSMENT.....</b>	 <b>9</b>
2.1 From a ‘performance’ to a ‘competency’ outcomes-based model of pedagogy.....	9
2.2 Outcomes-based principles in our educational system.....	11
2.3 Outcomes-based education: A success or failure?.....	13
2.4 Conclusion.....	15
 <b>CHAPTER 3 – TOWARDS A THEORETICAL FRAMEWORK FOR INTERROGATING THE PROBLEM.....</b>	 <b>17</b>
3.1 Bernstein’s concepts.....	17
3.1.1 Classification.....	17
3.1.2 Framing.....	20
3.1.3 Recognition and realisation rules.....	21
3.2 3.2.1 Vygotsky’s ‘zone of proximal development’.....	22
3.2.2 Assessment and the ZPD.....	23
3.3 Scaffolding.....	24
3.4 ‘Performance’ versus ‘competency’ based models in relation to the theoretical framework developed above.....	25



3.5	Conclusion.....	27
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## **CHAPTER 4 – ASSESSMENT AND PORTFOLIOS: A NEW FORM AND**

<b>FUNCTION?</b> .....	29
4.1	Assessment: Its purpose, forms and functions.....29
4.1.1	So what are the purposes of assessment?.....30
4.1.2	Assessment forms and functions.....32
4.2	Portfolios as a collection of different forms of assessment.....35
4.2.1	Towards a definition of portfolios.....35
4.2.2	Portfolios in MLMMS.....36
4.3	4.3.1 Task selection and cognitive demand: Their impact on the development of mathematical portfolios.....38
4.3.2	What are the current factors affecting task selection?.....42
4.3.3	Improving task selection.....43
4.4	Conclusion.....45

## **CHAPTER 5 – MATHEMATICAL COMPETENCIES IN PORTFOLIO**

<b>ASSESSMENT</b> .....	49
5.1	Why the use of mathematical competencies?.....49
5.2	Influences on the development of the final list of competencies used for this analysis.....51
5.2.1	What it means to demonstrate or possess some mathematical competence.....51
5.2.2	Derivation of the composite list of mathematical competencies used for this research project .....53
5.3	Current dilemmas in the development of portfolios for assessment in Mathematics in South Africa.....62
5.3.1	Threats to validity.....62
5.3.2	Reliability.....63

5.4	Relating the list of mathematical competencies to changing assessment practises in South Africa.....	63
5.5	Criticisms and concerns with regard to the use of a competency-based task analysis framework.....	65
5.6	Conclusion.....	69

## **CHAPTER 6 – METHODOLOGY.....74**

6.1	Initial aspects of the research process.....	74
6.1.1	Description of initial thoughts, environment of research and research approach.....	74
6.1.2	Tasks: Open-ended or not?.....	76
6.1.3	Grading of tasks.....	79
6.1.4	Initial steps towards the analysis.....	80
6.2	Examples to illustrate the competency or not of learners.....	83
6.3	Generation of initial tables of analysis.....	90
6.4	Limitations to this research.....	91

## **CHAPTER 7 – ANALYSIS OF TASKS AND DISCUSSION OF RESULTS.....94**

7.1	Question 1: What mathematical competencies were assessed by the tasks used in this research project?.....	95
7.2	Question 2a: How do mathematics portfolios affect the learners' academic results. In particular, do the results of the different ability groups of learners reflect differing apparent benefits?.....	105
7.2.1	What then was the dominating purpose of producing such a portfolio?.....	110
7.3	Question 2b: How do each of the different ability groups of learners fare with regard to:	
i)	the more 'open-ended' types of tasks compared to the more 'closed' types, and	

ii)	tasks that are considered to be of ‘high cognitive demand’ versus those that are classified as being of ‘low cognitive demand’?.....	113
7.4	Question 2c: with regards to the mathematical competencies assessed in this portfolio, do the different ability groups of learners fare differently within each one. If so, how? That is, which groups are proficient (or not) in the different mathematical competencies assessed in these portfolios?.....	116
7.4.1	Reflection as a group.....	119
7.4.2	Reflection in terms of levels of ability.....	125
7.4.3	Reflection in terms of competencies and tasks .....	135
7.5	Conclusion.....	138
<b>CHAPTER 8 – CONCLUSIONS AND DISCUSSION.....</b>		<b>141</b>
8.1	Discussion.....	141
8.2	Tensions with regard to the development of successful portfolios in Mathematics.....	146
8.3	Results from the learners’ actual performances.....	147
8.4	Competencies assessed in these portfolios.....	149
8.5	Recommendations for practice.....	150
8.6	Experience as a researcher.....	152
<b>REFERENCES.....</b>		<b>154</b>
<b>APPENDIX A – Portfolio Research Project Consent Form.....</b>		<b>159</b>
<b>APPENDIX B – Tasks used for this research.....</b>		<b>162</b>
<b>APPENDIX C – Tables used for initial analysis.....</b>		<b>185</b>